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ABSTRACT

During the early 1980s the Indonesian government made a policy decision to develop fisheries as an important sector of the national economy. In doing so, it recognized the need for the collection and dissemination of fisheries research information not only for the scientists themselves, but also for the ultimate transfer of technology through extension networks to small holder fish farmers and fishermen spread throughout the many islands of Indonesia. The Indonesian Fisheries Information System (INFIS) network was set up to support cooperative action among the various fisheries institutions. This paper describes the formation and actual workings of INFIS, and explains how INFIS has successfully coordinated fisheries information collection and networking activities--i.e., manpower training, building of the INFIS database, issuance of publications, and the building of the network infrastructure--throughout Indonesia. Further, the tie-in of INFIS with the other regional networks that form the backbone of the southeast Asian Fisheries Information System is briefly touched on. Concluding the paper are the names and addresses of the libraries that participate in the INFIS network, a chart relating to the flow of information within the network, and several INFIS bibliographic worksheets. (MAB)

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FISHERIES INFORMATION NETWORK IN INDONESIA

Paper Presented at

The Third National Conference on Librarians and International Development held at Oregon State University, Corvallis, Oregon, April 28-30, 1991

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The Department of Fisheries and Allied Aquacultures at the Auburn University has for over twenty years played a significant role in the development of aquaculture in a number of third world countries. With support from the United States Agency for International Development (USAID), the university established in 1970 the International Center for Aquaculture, committed to the service of the people of the developing world through instruction, research, and extension at institutional, community and farm levels. Last summer the Department requested me to visit Indonesia as a short term USAID consultant. A major reason for my visit was to evaluate a funding request made to the USAID by the Institut Pertanian Bogor at the Bogor Agricultural University. USAID funds were sought for the creation of a computerized database relating to Indonesian fisheries research.

On my way to Indonesia I stopped briefly in Manila, Philippines, to visit the International Center for Living Aquatic Resources Management (ICLARM) and to familiarize myself with their database creation, networking and information dissemination activities. In Indonesia itself I spent considerable time meeting with fisheries scientists, government officials, extension service workers and university fisheries faculty as well as the staff of the various fisheries libraries and information centers in and around Jakarta, Yogyakarta, and Bogor. A list of these libraries is included in the appendix.

Following the submission of my report, I returned to the United States via Bangkok, Thailand, where I had the opportunity to visit, the offices of the Southeast Asian Fisheries Development Center (SEAFDEC) and the National Inland Fisheries Institute of the Thailand Department of Fisheries located on the campus of Kasetsart University. The Institute serves as the national center for the Thailand Fisheries Information System (THAIFIS).

In this paper I plan to provide a brief narrative of the formation and actual workings of the Indonesian Fisheries Information System (INFIS). I will explain how INFIS has successfully coordinated fisheries information collection and networking activities throughout Indonesia. I will also briefly touch upon the tie-in of INFIS with other regional networks which form the backbone of the southeast Asian Fisheries Information System (SEAFIS).

During the early 1980's the government of Indonesia made a policy decision to develop fisheries as an important sector of the national economy. In doing so, it recognized the need for the collection and dissemination of fisheries research information not only for the scientists themselves, but also for the ultimate transfer of technology through extension networks to small holder fish farmers and fishermen spread throughout the many islands of Indonesia.

The difficulties experienced by researchers as well as workers in the fisheries sector in Indonesia were similar to those obtaining in any other developing third world country. Briefly they related to a lack of knowledge as to what information was available, where it was available, how to access it and whether the available resources were in vernacular and not in any western languages. There were also the incidental problems relating to research

duplication and the inability to bring researchers and their skills and knowledge to the level of people actually engaged in fish farming and commercial fisheries.

Prior to the establishment in 1984 of the INFIS network as the main channel for fisheries information flow, there were nearly twenty fisheries libraries belonging to research and educational institutions, all working independently of one another and often at cross purposes. In an attempt to overcome these difficulties, the Directorate General of Fisheries of Indonesia (DGF) with funding assistance from the International Development Research Centre (IDRC), Canada created the INFIS network and made the fisheries library at DGF the coordinating library. This library was charged with the responsibility and acquisition of all research reports and other printed materials published by the different institutions in the country and the region and transmit the same to users as part of its document delivery function.

Before we look at the activities undertaken by INFIS, a word about the organizational structure of the Indonesian fisheries is in order. At the top of the structure is the Ministry of Agriculture which has three adjuncts at the national level. These are the Agency for Agricultural Research and Development (AARD), the Directorate General of Fisheries (DGF), and the Agency for Agriculture Eduction Extension (AAEE). The DGF is responsible for fisheries administration and exercises jurisdiction over five development centers namely: Freshwater Fisheries Development Centre, Brackishwater Fisheries Development Center, Mariculture Development Centre, Marine Fisheries Development Centre, and Fish Technology and Quality Control Development Centre. These institutions have their own fisheries libraries. The DGF library was charged to act as a Reference Library and to monitor and supervise the management of the network and the procedural standardization of the activities of all libraries. As the coordinating library, the DGF is responsible for providing fisheries information to the user community from domestic and foreign sources.

The INFIS network was set up to support cooperative action among the various fisheries institutions. The components of the system are the Directorate General of Fisheries, Central Research Institute for Fisheries Development (CRIFI), Agricultural Information Centre, Fisheries Education and Training Institute and the Provincial Fisheries Service. A Board of Coordination has been set up for policy and program formulation in the area of fisheries information management. The administrative work of the Board is the responsibility of the Chief of the Information Management Unit of the DGF. This person acts as the secretary of the Board of Coordination. Currently the INFIS network and its many input centers are under the direction of Dr. Alwinur.

The activities primarily undertaken by INFIS relate to manpower training, building of the INFIS database, issuance of publications, and the building of the network infrastructure. Training is a necessary component of the INFIS network programs because of the fact that lack of skilled personnel is a major obstacle to achieving a national fisheries information service. Towards this goal INFIS has over the past few years been conducting

a series of local and overseas training in the areas of library and information management, computerized information processing, and the preparation of extension materials. The curriculum on library and information management extending over a period of four weeks covers the following areas of basic library skills: the process of acquisition of materials by purchase, exchange and gift; the processing of library materials including cataloging (AACR2), classification (UDC), indexing, labelling, typing of the catalog card and filing; user service including catalog instruction, reference and information search, photocopying, and document delivery; and bibliographic methods relating to preparation of bibliographies, data input using SEAFIS methodology, and the use of SEAFIS and ASFIS subject indices and thesauri. (See appendix for a sample INFIS data input form). While instruction on the various aspects of library management is quite intensive I found, that the time allocated for training was not adequate especially in view of the fact that the staff trained in almost all cases did not have any library background or education.

It is in the area of its publication activities, the INFIS network seems to have made an outstanding contribution. The staff on INFIS and the numerous input centers primarily depend on the UNESCO-developed CDS/ISIS (Computerized Documentation Service/Integrated Set of Information Systems). This is a generalized database management system designed for handling bibliographic data and may be used for cataloging and indexing of reports, documents, journal literature and monographs. This software performs three main functions, namely, file maintenance including data preparation, entry, modification and updating; retrieval including online and batch search capabilities; and sorting and printing for the production of catalogs, indexes, etc. To this date, the many INFIS publications have taken the form of 1. Extension Leaflets for the downstream clientele (fishermen and fish farmers), e.g. "Snail Culture", "Handling of Fresh Tuna", "Freshwater Ornamental Fish Culture", "Red Seabass Handling Guide", "Floating Net Fish Culture", "Rice-Cum-Fish Culture System", "Culture of Sea Cucumber", "Backyard Hatchery", and "Fish Preservation" etc., 2. Indonesian Fisheries Bibliography, now in its fifth edition. 3. A Monthly Newsletter in Indonesian published for the general fisheries leadership containing useful information such as weather forecasting, marketing, packaging technology and the like. 4. INFIS extension manuals designed for the extension specialist, e.g. "Water management of Brackish Water Pond", "Tuna Fishing Technology", "Processing of Smoke Milk Fish with Smoking Cabinet", etc. 5. Code of practice which is the repackaging of research results in a form suitable for end users such as fish farmers and fish processors. 6. Translations of foreign fisheries literature into Indonesian language including journal articles, seminar papers, research reports and other publications issued by regional and international agencies. 7. There is a plan for creating an union of existing holdings of all fisheries libraries is also in the works subject to the availability of funding support. The INFIS networks also has plans for the setting up of a Fisheries Writers Association which would facilitate rewriting and repackaging of fisheries information in a simple user oriented language.

Another major responsibility of the INFIS network relates to collaboration with national agencies such as the National Documentation and Science Centre, National Library of the Ministry of Education and Culture, National Agricultural Library, and the country's

leading universities. This collaboration also extends to regional and international bodies such as SEAFDEC which serves as the regional fishery information network through the Southeast Asian Fisheries Information System (SEAFIS) and the Food and Agricultural Organization's Aquatic Sciences and Fisheries Information System (ASFIS) and the International Center for Living Aquatic Resources Management. The SEAFIS project consists of information and library services provided by three SEAFDEC department and the SEAFDEC Secretarial. The goal is to provide an impetus for planning and decision making for fisheries development in the region. It makes available in a centralized location information on fisheries and related technologies. The network collects, stores, analyzes and disseminates such information throughout the region. It also provides short term instruction for local fishermen in up to date fisheries technology. Given in the appendix is a chart relating to the flow of information within the network. The INFIS network also cooperates extensively with ICLARM for its training activities. Indonesian library personnel have been sent to Manila for intensive courses on computerized information management. In addition, ICLARM personnel have been invited to spend time at various Indonesian input centers providing on the job training on data entry and retrieval. The ICLARM also offers many opportunities for Indonesian researchers, students, and library professionals to study or train with its scientific and technical staff. Its information specialists have been made available to other institutions to help develop their own information capabilities. It maintains an extensive fisheries library and an ongoing database.

During the past six years of its operation the INFIS network has made a meaningful contribution to the organization and development of a national fisheries information system benefitting not only the fisheries researchers but also those working in the national fisheries sector. By western standards the accomplishments of INFIS to this date may not appear to be significant, however, if one considers the vast geography of Indonesia which consists of more than thirteen hundred islands with over two million fish farmers and fisherman, the progress of INFIS up to this point augers well for the future. The main impediments for quicker progress seems to be a lack of sufficient financial resources and a lack of well trained cadre of library professionals. However, with timely and adequate assistance, financial as well as technical from advanced countries, those currently involved in developing and improving this network are certain to achieve their goal of establishing an efficient national information network.

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2. Indonesian Fisheries Information System Project. Progress Report, April 1989-March 1990. Jakarta, Indonesia: Dircktorat Jenderal Perikanan and International Development Research Centre, 1990. 99p.

3. Fisheries Research Development Project Report submitted to the Chief of Party Fisheries Research Development Project, Central Research Institute for Fisheries by Sarojini Balachandran, Auburn University. Jakarta, Indonesia, 1990. 45p.

Appendix

1. UNESCO/ROTSEA Library
   United Nations Building
   Jalan M.H. Thamrin 14 (2d floor)
   Tromolpos 1273/JKT
   Jakarta 10012, Indonesia
   Tele: 321-308

2. Food and Agricultural Organization of the United Nations Library
   Jalan M. H. Thamrine 14
   P.O. Box 2338 Jakarta, Indonesia
   Tele: 321-308 Ext. 232

3. Research and Development Center for Oceanology Pusat Penelitian dan Pengembangan Oseanologi Lembaga I1mu Pengetahuan Indonesia (LIPI)
   J1. Pasir Putih 1, Ancol Timur
   P.O. Box 580 DAK
   Jakarta 11001, Indonesia
   Tele: 683-850

4. Research Institute for Freshwater Fisheries
   Balai Penelitian Perikanan Air Tawar
   J1. Sempur no.1, Bogor, Indonesia
   Tele: (0251)313200

5. National Library for Agricultural Sciences
   JL Ir. H. Juanda No. 20, Bogor, Indonesia
   Tele: (0251)321-746

6. Institut Pertanian Bogor
   Departemen Pendidikan Dan Kebudayaan
   Lembaga Sumberdaya Informasi
   Kampus IPB Darmage
   P.O. Box 101
   Bogor, Indonesia
   Tele: (0251)311-244

7. Department of Fisheries Library
   Institut Pertanian Bogor
   Darmaga Campus
   Bogor, Indonesia
   Tele: (0251)221.67

8. Central Research Institute for Fisheries Library
   J1. K. S. Tubun
   P.O. Box 50 Slipi

Jakarta, Indonesia 11410 A
Tele: (021) 548-0322

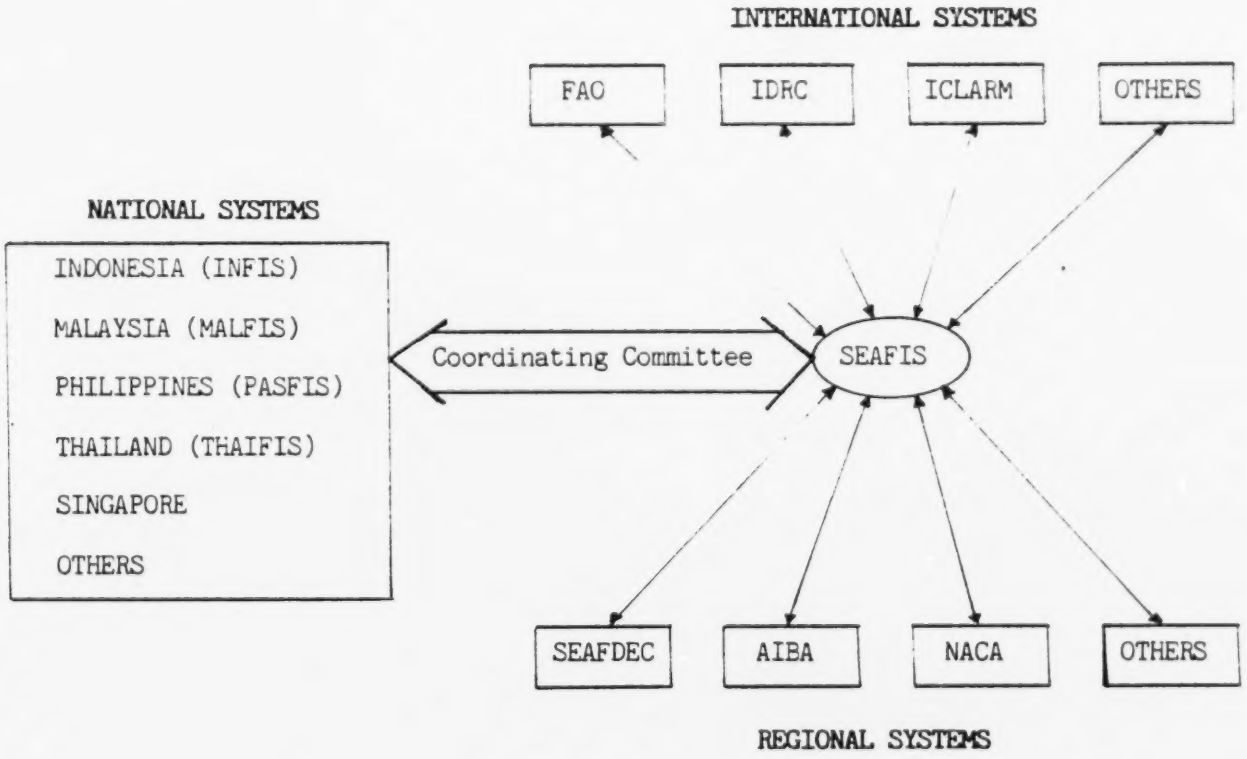
9. Director General of Fisheries Library
J1. Harsono RM
Ragunan, Pasar Mingu
Jakarta Selatan, Indonesia
Tele: 780-4116

10. Southeast Asian Regional Centre for Tropical Biology (SEAMEO-BIOTROP) Library
J1. Raya TaJur, KM 6,
Bogor 16001, Indonesia
Tele: (0251)323848

11. Indonesian Institute of Sciences (Lembaga I1mu Pengetahuan Indonesia)
National Scientific Documentation Center
(Pusat Dokumentasi I1miah Nasional)
J1. Jendral Gatot Soebroto 10,
P.O. Box 269/JKSMG/88
Jakarta 12790 Indonesia
Tele: 583465; 511063

12. Research Institute for Marine Fisheries Library
Balai Penelitian Perikanan Laut
Agency for Agriculture Reserch and Development
J1. Krapu no. 12. Sunda Kelapa
Jakarta Utara, Indonesia
Tele: 679191

Flow of Information



LEMBAR KERJA BIBLIOGRAFI INFIS
(INFIS BIBLIOGRAPHIC WORKSHEET)

INDONESIAN FISHERIES INFORMATION SYSTEM (I N F I S)	NAMA BASIS DATA / DATABASE NAME 10	KODE MASUKAN / INPUT CODE 20

LINGKUP BAHASAN/ ENVIRONMENTAL REGIME 30	TIPE DOKUMEN/ TYPE OF DOCUMENT 40	TINGKAT BIBLIOGRAFI/ BIBLIOGRAPHIC LEVEL 50	BENTUK DOKUMEN/ LITERARY STYLE 60
M B F	B C D F G H J P R T	A M S C	K L N O Q U W Y Z

JUDUL I LEVEL I TITLE	Asli/Original 120 Terjemahan/Translation 121
JUDUL II LEVEL II TITLE	122
JUDUL III LEVEL III TITLE	123
KONPERENSI CONFERENCE(S)	Nama/name 130 Tempat/Place 131 Tg-Bl-Th/Date 132
PENGARANG AUTHOR(S)	Nama/Name 140 Nama Lengkap/Variant Name 141 Afiliasi/Affiliation 142 Badan Hukum - Instansi/Corporate Author 143

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PENERBIT / PUBLISHER	Nama/Name 240
	Tempat/Place 241
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	Dokumen yang tidak diterbitkan dibuatkan catatan pada lajur Catatan
CATATAN / NOTE(S)	250
URAIAN / DESCRIPTION	Subyek/Subject 620
	Taksonomi/Taxonomical 621
	Geografi/Geographical 622
	Lain-lain/Other(s) 623

PUBL./PUBLICATION	680	TUNJUK SILANG / CROSS REFERENCE	Publikasi/Pub. 690	
KLAS./CLASSIFICATION	681		Klas./Classif. 691	
			Peo. Sub. Kat. 692	

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